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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,586	10/11/2006	Jan Henk Kamps	GEPL.P-070-2	3248

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EXAMINER	
BOYKIN, TERRESSA M	
ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
07/10/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@himtnpatents.com

Office Action Summary	Application No.	Applicant(s)	
	10/597,586	KAMPS ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10-11-6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

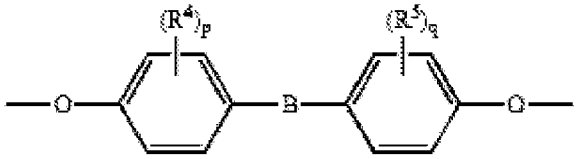
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

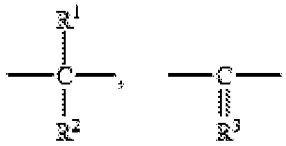
Claim 1, 2 -7,10-12,15-16,19-26,28-29,31-38,40,44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by EP EP 0508775 see pages 1-10 and discussion below.

With regard to claims 1, 2, 15,16 and discloses a method of producing a copolycarbonate with improved color wherein the method comprises the steps of,

i. preparing a molten reaction mixture comprising a first dihydroxy aromatic compound comprising monomer residue (a), a second dihydroxy aromatic compound comprising monomer residue (b), and a carbonate source, wherein monomer residue (a) is a quinone structure, or a structure capable of forming a quinone structure upon oxidation, wherein monomer residue (b) is a quinone structure, or a structure capable of forming a quinone structure upon oxidation different from monomer residue (a) or is,



where B



is--O--, --CO--, --S--, --SO_2--, a C_6-C_{20} aromatic radical, or a C_6-C_{20} cycloaliphatic radical; the groups R^1 and R^2 are independently a hydrogen atom, C_1-C_{20} alkyl radical, C_4-C_{20} cycloalkyl radical, or C_4-C_{20} aryl radical; or R^1 and R^2 together form a C_4-C_{20} cycloaliphatic ring which is optionally substituted by one or more C_1-C_{20} alkyl, C_6-C_{20} aryl, C_5-C_{21}, aralkyl, C_5-C_{20} cycloalkyl groups or a combination thereof, R^3 is a divalent hydrocarbylene group, and R^4 and R^5 are independently a hydrogen atom, halogen atom, nitro group, cyano group, C_1-C_{20}alkyl radical C_4-C_{20} cycloalkyl radical, or C_6-C_{20} aryl radical and p and q are both integers from 0 to 4,

ii. selecting a catalyst introduction strategy sufficient to result in a product copolycarbonate with unproved color, wherein the catalyst introduction strategy is selected from the group consisting of,

1. introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization,

2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and

3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together,

iii. introducing the catalyst according to the selected catalyst introduction strategy,iv. introducing the reaction mixture to a series of process units, and allowing the reaction mixture to polymerize in the series of process units thereby forming copolycarbonate, wherein the copolycarbonate has improved color as compared to a copolycarbonate formed in a melt process without the steps of selecting a catalyst introduction strategy and introducing catalyst according to the selected strategy.

EP 0508775 discloses copolycarbonates comprising resorcinol and/hydroquinone obtained by the melt polymerization process wherein an organic hydroquinone and obtained by the melt polymerization process wherein an organic catalyst and an

inorganic catalyst are added the reactants before heating the reaction mixtures. Thune subject-matter of present claims 1, 19-30, 44 and 45 is therefore anticipated.

Example 1, page 3 lines 15-52, 53- page 4 line 21 , lines 47-54, D1,

Example 1, page 10 lines 12-28. Page 11 states that the catalyst is added after heating/stirring after 30 minutes.

Note also Example 2 lines 18-20, 21-25. Page 6 lines 5-6, page 11 lines 54-58, Note also claim 3 disclose that after the melt polymerization the reaction product was substituted to vacuum treatment.

With regard to claim 2, wherein the polymerization catalyst comprises an organic and inorganic catalysts and is introduced to the reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization.

See claim 1 above.

With regard to claim 3 wherein the inorganic catalyst is NaOH and the organic catalyst is selected from the group consisting of TMAH, TBPA, and combinations thereof.

Example 1 and example 3.

With regard to claim 4, wherein monomer residue (a) has the structure, where each R^{10} is independently at each occurrence a hydrogen atom, halogen atom, nitro group, cyano group , C^1-C^{20} alkyl, C^4-C^{20} cycloalkyl radical, C^4-C_{20} aryl radical, and n is an integer from 0 to 4.

Page 2 lines 45-50.

With regard to claim 5 wherein monomer residue (a) is catechol, resorcinol, hydroquinone, butyl hydroquinone, methyl hydroquinone or any combination thereof.

Page 3 lines 15-60. Abstract,

With regard to claim 6 wherein monomer residue (b) is BPA.

Page 3 lines 1-3, lines 54 page 4 line 24, Specifically page 3 lines 55.

With regard to claim 7 wherein the carbonate source is diphenyl carbonate.

Page 3 lines 1-3, lines 54, page lines 1-24, specifically page line 55.

With regard to claim 10, wherein tip to 50 mole % of the carbonate source is selected from the group consisting of dicarboxylic acids, dicarboxylic acid esters, dicarboxylic acid halide or any combination thereof.

Page 4 lines 10-12

With regard to claims 11 and 12, wherein the inorganic and organic catalysts are introduced together; wherein the inorganic and organic catalysts are introduced with monomer residue (a), monomer residue (b), the carbonate source or combinations thereof.

Page 2 lines 36-39, page 4 lines 45-60; page 5 lines 12-29.

With regard to claim 19, wherein the polymerization catalyst comprises organic and inorganic catalysts and is introduced to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours.

With regard to claim 20, 32 wherein the residence time of the process from the start of melting until substantial polymerization has occurred is 30 minutes or less.

Example 1 lines 1-3.

With regard to claim 21, 33 wherein the residence time of the process from the start of melting until substantial polymerization has occurred is 15 minutes or less minutes.

Example 1 lines 1-3.

With regard to claim 22, 34 wherein the inorganic catalyst is NaOH and the organic catalyst is selected from the group consisting of TMAH, TBPA, and combinations thereof.

Example 1 lines 1-3, Example 2,3.

With regard to claim 23, 35 wherein monomer residue (a) has the structure, where each R^{10} is independently at each occurrence a hydrogen atom, halogen atom, nitro group, cyano group , C_1-C_{20} alkyl, C_4-C_{20} cycloalkyl radical, C_4-C_{20} aryl radical, and n is an integer from 0 to 4.

Page 2 lines 52-53.

With regard to claim 24, 36 wherein monomer residue (a) is catechol, resorcinol, hydroquinone, butyl hydroquinone, methyl hydroquinone or any combination thereof.

Page 3 lines 1-5,11

With regard to claim 25, 37 wherein monomer residue (b) is BPA.

Page 3 lines 15-20.

With regard to claim 26, wherein the carbonate source is diphenyl carbonate.

Page 3 line 55.

With regard to claim 28, wherein up to 50 mole % of the precursor of the carbonate source is derived from the group consisting of dicarboxylic acids, dicarboxylic acid esters, dicarboxylic acid halide or any combination thereof.

Page 4 lines 10-12.

With regard to claim 29, wherein the inorganic and organic catalysts are introduced together or separately.

Page 5 lines 50-56.

With regard to claim 31, wherein the polymerization catalyst comprises organic and inorganic catalysts, wherein the organic catalyst is introduced to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and wherein the inorganic catalyst is introduced to the reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted, and wherein the introduction occurs prior to substantial polymerization.

Page 5 lines 50-58. Example 1 and 2 and 3.

With regard to claim 32, wherein the residence time of the process from the start of melting until substantial polymerization has occurred is 30 minutes or

less.

Example 1 and 2

With regard to claim 33, wherein the residence time of the process from the start of melting until substantial polymerization has occurred is 15 minutes or less.

Example 1 and 2.

With regard to claim 34, wherein the inorganic catalyst is NaOH and the organic catalyst is selected from the group consisting of TMAH, TBPA, and combinations thereof.

Example 1 and 2.

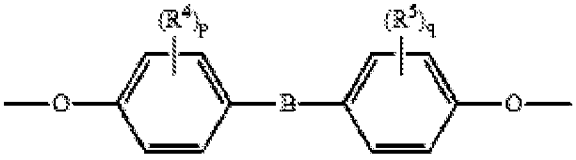
With regard to claim 44 or 45 which discloses a method for making a molded article formed from copolycarbonate with improved color prepared by the method comprising the steps of,

i. preparing a molten reaction mixture comprising a first dihydroxy aromatic compound comprising monomer residue

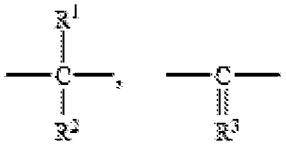
(a), a second dihydroxy aromatic compound comprising monomer residue (b), and a carbonate source, wherein monomer residue

(a) is a quinone structure, or a structure capable of forming a quinone structure upon oxidation, wherein monomer residue

(b) is a quinone structure, or a structure capable of forming a quinone structure upon oxidation different from monomer residue (a) or is,



where B is



is--O--, --CO--, --S--, --SO_2--, a C_6-C_{20} aromatic radical, or a C_6-C_{20} cycloaliphatic radical; the groups R^1 and R^2 are independently a hydrogen atom, C_1-C_{20} alkyl radical, C_4-C_{20} cycloalkyl radical, or C_4-C_{20} aryl radical; or R^1 and R^2 together form a C_4-C_{20} cycloaliphatic ring which is optionally substituted by one or more C_1-C_{20} alkyl, C_6-C_{20} aryl, C_5-C_{21}, aralkyl, C_5-C_{20} cycloalkyl groups or a combination thereof, R^3 is a divalent hydrocarbylene group, and R^4 and R^5 are independently a hydrogen atom, halogen atom, nitro group, cyano group, C_1C_{20}alkyl radical C_4-C_{20} cycloalkyl radical, or C_6-C_{20}selecting a catalyst introduction strategy sufficient to result in a product copolycarbonate with improved color, wherein the catalyst introduction strategy is selected from the group consisting of,

1. introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization,

2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and

3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together,

iii. introducing the catalyst according to the selected catalyst introduction strategy,

iv. introducing the reaction mixture to a series of process units,

v. allowing the reaction mixture to polymerize in the series of process units thereby forming copolycarbonate, wherein the copolycarbonate has improved color as compared to a copolycarbonate formed in a melt process without the steps of selecting a catalyst introduction strategy and introducing catalyst according to the selected strategy, and

vi. forming a molded article from the copolycarbonate.

EP 0508775 discloses copolycarbonates comprising resorcinol and/hydroquinone obtained by the melt polymerization process wherein an organic hydroquinone and obtained by the melt polymerization process wherein an organic catalyst and an inorganic catalyst are added the reactants before heating the reaction mixtures. Thune subject-matter of present claims 1, 19-30, 44 and 45 is therefore anticipated.

Note Example 1, page 3 lines 15 - 52, 53 through page 4 line 21, lines 47-54, D1, Example 1, page 10 lines 12-28. Page 11 states that the catalyst is added after heating/stirring after 30 minutes.

Note also Example 2 lines 18-20, 21-25. Page 6 lines 5-6, page 11 lines 54-58, Note also claim 3 disclose that after the melt polymerization the reaction product was substituted to vacuum treatment.

Thus the reference discloses method for preparing a copolycarbonate prepared from the same components as claimed by applicants. In view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Claim Rejections -35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis or all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8, 9, 13, 14,17,18, 27, 30, 39, 41, 42, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0508775 see abstract, claims; further in view of USP 7034099;

With regard to claims 8, 9, 13, 14, 27, 39 EP 0508775 discloses the claimed invention except for the carbonate source is an activated carbonate; wherein the activated carbonate is bismethylsalicylcarbonate.

However, USP 6747119 discloses relates to a method and system for preparing a polycarbonate copolymer by addition of a copolymerization reagent to a copolycarbonate. The Examples and COMPARATIVE Examples illustrate that the use of activated carbonates like bis-(methyl salicyl)carbonate as the carbonic acid diester results in copolymers having higher molecular weights and incorporation levels of the added comonomer than non-activated carbonates like DPC.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ activated carbonate specifically a bismethyl salicylcarbonate in EP '775.

With regard to claim 13 EP 0508775 discloses the claimed invention except for the introduction to the reaction mixture in a separate feed to a monomer mix tank, a first process unit, or a feed line to a first process unit.

However, USP 7034099 discloses in claim 16. a method, wherein the antioxidant is introduced to the reaction mixture after melting monomer residues (a), monomer residues (b), and the carbonate source wherein the introduction of the antioxidant to the molten reaction mixture occurs in a melt, a feed line to a monomer mix tank, the monomer mix tank, a feed line from the monomer mix tank to a first process unit, the first process unit, a feed line to a second process unit, the second process unit, a feed line to a third process unit, the third process unit, or combinations thereof.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to make the copolymer of EP '775.

With regard to claim 14, EP 0508775 discloses the claimed invention except for the inorganic and organic catalysts are introduced to the molten reaction mixture at separate points.

Note USP 7034099 discloses in claim 52 "52. a method wherein the polymerization catalyst is introduced to the reaction mixture according to a selected strategy, wherein the strategy is selected from the group consisting of, 1. introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization, 2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and 3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the inorganic and organic catalyst introduced into a molten reaction mixture at separate points.

With regard to claim 17, EP 0508775 discloses the claimed invention except for the inorganic catalyst being introduced to the molten reaction mixture in a feed line from a monomer mix tank to a first process unit, the first process unit, a feed line to a second process unit, the second process unit, a feed line to a third process unit, the third process unit, or combinations thereof.

However, USP 7034099 discloses a method comprising a strategy of introducing the polymerization catalysts to the reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization. The organic and inorganic catalysts may be introduced to the reaction mixture either together or at separate points. In claim 27 a method wherein the antioxidant is introduced to the reaction mixture after melting monomer residues (a), monomer residues (b), and the carbonate source wherein the introduction of the antioxidant to the molten reaction mixture occurs in a melt, a feed line to a monomer mix tank, the monomer mix tank, a feed line from the monomer mix tank to a first process unit, the first process unit, a feed line to a second process unit, the second process unit, a feed line to a third process unit, the third process unit, or combinations thereof. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the introduction of the catalyst to the molten reaction mixture in a feed line form a monomer mix tank to a series of process units to make the copolymer as disclosed in EP'775.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the inorganic and organic catalyst introduced to the molten reaction mixture in a feed line from a monomer mix tank to a series of process units.

With regard to claim 18, EP 0508775 discloses the claimed invention except for wherein the method further comprises the step of introducing a dihydric phenol to the molten reaction mixture within the series of process units through late monomer addition.

However, USP 7034099 discloses "An embodiment of the present invention further comprises the step of introducing a dihydric phenol or other monomer to the molten reaction mixture within the series of process units through late monomer addition. This addition of dihydric phenol may occur within the first, second, third or subsequent process units or the feed lines there between. It is preferable that the antioxidant is

introduced to the reaction mixture prior to the late monomer addition. However, it is possible to add the acid with the monomer of the late monomer addition."

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the method of the reference to make the polymer of EP"775.

With regard to claim 30, EP 0508775 discloses the claimed invention except for inorganic and organic catalysts being introduced to a monomer mix tank or a melted together with monomer residue (a), together with monomer residue (b), together with the carbonate source, in a separate feed or combinations thereof.

However, USP 7034099 discloses in claim 52 a method wherein the polymerization catalyst is introduced to the reaction mixture according to a selected strategy, wherein the strategy is selected from the group consisting of, 1. introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization, 2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and 3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of EP '775

With regard to claim 41, EP 0508775 discloses the claimed invention, wherein the organic catalyst is introduced to a monomer mix tank or a melted together with monomer residue (a), together with monomer residue (b), together with the carbonate source, in a separate feed or combinations thereof, and wherein the inorganic catalyst is introduced to the molten reaction mixture, within a monomer mix tank, a feed line from a monomer mix tank to a first process unit, the first process unit, a feed line to a second process unit, the second process unit, a feed line to a third process unit, the third process unit, or combinations thereof.

However, USP 7034099 discloses in claim 52 52. The method of claim 1, wherein the polymerization catalyst is introduced to the reaction mixture according to a selected strategy, wherein the strategy is selected from the group consisting of, 1. introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization, 2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and 3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together. Note that the reference discloses that introduction of the reaction mixture make take place in a series of process units,

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of EP '775

With regard to claim 42, EP 0508775 discloses the claimed invention except for wherein the copolymer has a molecular weight Mw of at least 10,000 g/mole (Polystyrene standards) and the molecular weight Mw is subsequently increased to a value higher than 25,000 g/mole (Polystyrene standards) using a standard extrusion step.

Note USP 7034099 discloses in claims 42, 43, and 44 wherein a method wherein the copolymer has a molecular weight Mw between 10,000 and 100,000 g/mole (Polystyrene standards) or wherein the copolymer has a molecular weight Mw between 25,000 and 40,000 g/mole (Polystyrene standards); or wherein the copolymer has a molecular weight Mw of at least 10,000 g/mole (Polystyrene standards) and the molecular weight Mw is subsequently increased to a value higher than 25,000 g/mole (Polystyrene standards) using a standard extrusion step; or wherein the copolymer has a molecular weight Mw of at least 10,000 g/mole (Polystyrene standards) and the molecular weight Mw is subsequently increased to a value higher than 25,000 g/mole (Polystyrene standards) by further reaction of oligomers by means of solid state polymerization.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of EP '775 having a molecular weight as claimed,

With regard to claim 43, EP 0508775 discloses the claimed invention except for wherein the copolymer has a molecular weight Mw of at least 10,000 g/mole (Polystyrene standards) and the molecular weight Mw is subsequently increased to a value higher than 25,000 g/mole (Polystyrene standards) by further reaction of oligomers by means of solid state polymerization.

However, USP 7034099 discloses in claim 45 a method wherein the copolymer has a molecular weight Mw of at least 10,000 g/mole (Polystyrene standards) and the molecular weight Mw is subsequently increased to a value higher than 25,000 g/mole (Polystyrene standards) by further reaction of oligomers by means of solid state polymerization.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of EP '775 having a molecular weight as claimed.

Claim Rejections -35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis or all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2 -7,10-12,15-16,19-26,28-29,31-38,40,44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6657038 see cols. and examples 1-2 in view of 7057004.

USP 6657038 discloses a melt polymerization method is presented which permits the efficient preparation of copolycarbonates in which one or more of the constituent dihydroxy. aromatic compounds employed are relatively volatile, having a boiling point of less than about 340.degree. C. Relatively volatile dihydroxy aromatic compounds are illustrated by dihydroxybenzene such as hydroquinone, methyl hydroquinone and resorcinol. Known methods for the preparation of members of this class of copolycarbonates, such as the melt reaction of bisphenol A and resorcinol diphenyl carbonate in the presence of sodium hydroxide and tetraalkylammonium salt catalyst systems, suffer losses in efficiency due to the resorcinol being entrained out of the polymerization mixture with by-product phenol. Catalyst systems including quaternary phosphonium salts are shown to have improved performance with respect to the amount of volatile dihydroxy aromatic compound actually incorporated into the product copolycarbonate.

Thus, the reference discloses the method of making copolycarbonate as claimed except fro the particular time in which the catalyst is added, i.e. after the mixing of the monomers have sufficiently taken place. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to add the catalyst after sufficient reaction as take place since USP 7057004 discloses introducing a polymerization catalyst to the molten reaction mixture after monomer residues (a), monomer residues (b), and carbonate source are melted and prior to substantial polymerization, 2. introducing a polymerization catalyst to the reaction mixture or monomer residues prior to melting with the proviso that residence

time of the process from the start of melting until substantial polymerization has occurred is less than 4 hours, and 3. or a combination thereof, wherein the polymerization catalyst is an inorganic catalyst, an organic catalyst, or both inorganic and organic catalyst which may be introduced separately or together, iii. introducing the catalyst according to the selected catalyst introduction strategy, iv. introducing the reaction mixture to a series of process units, and v. allowing the reaction mixture to polymerize in the series of process units thereby forming copolycarbonate, wherein the copolycarbonate has improved color as compared to a copolycarbonate formed in a melt process without the steps of selecting a catalyst introduction strategy and introducing catalyst according to the selected strategy.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of USP 6657038 while adding the catalyst at the appropriate time in view of the benefits as demonstrated by USP 70057004.

Obviousness-type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-45 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of **U.S. Patent No. 7034099.** Although the conflicting claims are not identical, they are not patentably distinct from each other because the reference discloses the same subject as claimed except for the specific recitation for adding the cataslyst, however in view of

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of **USP 7034009** while adding the catalyst at the appropriate time in view of the benefits as demonstrated by **USP 70057004.**

Claims 1-45 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of **U.S. Patent No. 6657038**. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reference claims the same subject matter as claimed except of the recitation wherein the catalyst is added after significant reaction as take place.

However, USP 7057004 distinguished the benefits of adding the catalyst after mixing of the monomers has take place.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of the reference to form the copolymer of **USP 6657038** while adding the catalyst at the appropriate time in view of the benefits as demonstrated by **USP 70057004.**

- the Terminal Disclaimer with regard to USP 7057004 has been entered.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terressa M. Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday-Thursday 10-5:30 Friday (work at home).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Terressa M. Boykin/
Primary Examiner, Art Unit 1796